

REMARKS

Applicant respectfully requests reconsideration of this application in view of the following remarks.

Claim Status

Claims 1-29 are pending in the application. Claims 1-14, 16-18, 20, 21, 23-25 and 27-29 are rejected. Claims 15, 19, 22 and 26 are indicated as including allowable subject matter and objected to as to form. Of the pending claims, claims 1, 3, 5, 7, 9, 11, 13, 16, 18, 20, 23, 25, 27-29 are independent in form.

Rejections Under 35 U.S.C. §103

Claims 1-12 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,331,367 to Kawasaki et al. (“Kawasaki”) in view of US-PGPUB 2002/0109784 to Suda et al. (“Suda”) and claims 13, 14, 16-18, 20, 21, 23-25 and 27-29 are rejected under 35 U.S.C. §103(a) as being unpatentable over Suda in view of U.S. Patent No. 5,587,737 to Sekine et al. (“Sekine”).

The claimed inventions as recited in claims 1-15 are characterized in part in that the zooming speed is changed on the basis of the shutter speed (charge storage time). By virtue of this feature, the problem that the correcting operation of movement of the focal plane in the zooming operation cannot follow the object when the charge storage time becomes long and consequently the interval between the focus evaluation values become long, can be solved.

The claimed inventions as recited in claims 16-29 are characterized in part in that an averaging time of a focus evaluation value that represents a sharpness of an image is changed on the basis of a brightness of an object being photographed, blurring amount or zooming speed, etc.

In contrast thereto, in the cited reference Kawasaki, a special effect that a background of an object being photographed is radially diffused or converged is obtained by zooming a lens in an exposure time period.

In the cited reference Suda, a position of a focal plane, which moves in accordance with movement of a zooming lens, is compensated by moving a focus lens based on an electronic cam locus and result of focus detection.

In the cited reference Sekine, a correction parameter of a blur correction system is changed on the basis of an accumulation time of an image sensor.

However, it is not disclosed in any of the cited references Kawasaki or Suda that the zooming speed is changed on the basis of the shutter speed as the present claimed invention. In the cited reference Suda, a focus adjustment is performed in the zooming operation, but the zooming speed is not changed on the basis of the shutter speed.

Therefore, the inventions recited in claims 1-15 are neither taught or suggest nor obvious in view of the cited references Kawasaki and Suda, alone or in combination.

With respect to claims 16, 23 and 28, neither of the cited references Suda and Sekine disclose that a focus detection characteristic in zooming operation is improved by changing an averaging time of a focus evaluation value that represents a sharpness of an image, on the basis of a brightness of an object being photographed.

With respect to claims 18, 25 and 29, the cited references do not disclose that a focus detection characteristic in zooming operation is improved by changing an averaging time of a focus evaluation value that represents a sharpness of an image, on the basis of blurring information.

With respect to claims 20 and 28, the cited references do not disclose that a focus detection characteristic in zooming operation is improve by changing an averaging time of a focus evaluation value that represents a sharpness of an image, on the basis of zooming speed.

Sekine merely discloses that a blur correction characteristic is controlled on the basis of the accumulation time, but does not disclose an operation that is related with zooming.

Therefore, Kawasaki, Suda and Sekine, taken individually or in combination, do not teach or suggest the present invention as recited in the independent claims. The present invention as recited in each of the independent claims is thus clearly distinguishable from the cited art in at least the several respects stated above and neither anticipated by nor rendered obvious in view of Kawasaki, Suda and Sekine, taken individually or in combination for at least the reasons stated.

Dependent Claims

Applicant has not independently addressed the rejections of the dependent claims because Applicant submits that the dependent claims are also believed allowable for at least similar reasons as stated for the independent claims from which they depend. Applicant however, reserves the right to address any individual rejections of the dependent claims should such be necessary or appropriate.

CONCLUSION

In view of the foregoing, Applicant submits that the claims as pending are allowable over the prior art of record, taken alone or in combination, and that the respective rejections be withdrawn.

Accordingly, Applicant respectfully submits that the application is hereby placed in condition for allowance which action is earnestly solicited.

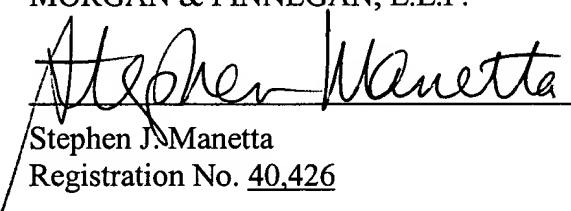
Applicant believes no fees or extensions of time are required for this Amendment. However, should an extension of time be necessary to render this filing timely, such is hereby petitioned, and the Commissioner is hereby authorized to charge any additional fees which may be required for this paper, or credit any overpayment, to Deposit Account No. 13-4500, Order No. 1232-4512.

In the event that a telephone conference would facilitate prosecution, the Examiner is invited to contact the undersigned at the number provided.

Respectfully submitted,
MORGAN & FINNEGAN, L.L.P.

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By:


Stephen J. Manetta
Registration No. 40,426

Correspondence Address:

Morgan & Finnegan, L.L.P.
345 Park Avenue
New York, NY 10154
(212) 758-4800 (Telephone)
(212) 751-6849 (Facsimile)